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GREENBLUM & BERNSTEIN, P.L.C.
1950 ROLAND CLARKE PLACE
RESTON, VA 20191

EXAMINER	
CHARLES, MARCUS	
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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/961,365
Filing Date: September 25, 2001
Appellant(s): AYUKAWA ET AL.

MAILED

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GROUP 3600

Bruce H. Bernstein
For Appellant

EXAMINER'S ANSWER

This examiner answer is response to the return order filed 09/20/2005, the supplemental appeal brief filed 08-30-2005, the appeal filed 11-08-2004 and the reply brief filed 11-15-2006 appealing from the Office action mailed 05-11-2004. The supplemental brief of 08-30-2005 appears to correct the appeal brief filed 11-08-2004 by supplying only two supplemental sheets including the Evidence Appendix and Related Proceedings Appendix. This examiners answer corrects the error noted in the return order and therefore, the examiner's answer of 11-15-2006 is hereby VACATED and replaced by this examiner' answer.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct. In addition, the ground of rejection stated by the appellant has been withdrawn.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

4,813,915	Kotzab	03-1989
JP (05-83516) A	Yasuhito et al.	12-1993

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP (05-83516) in view of Kotzab (4813,915). JP (05-83516), applicant's prior art) discloses a tensioner comprising a base (20) with a bottom having a tubular shape, a rocking arm (30) having a tubular part (31) rotatably supported inside the base, a pulley (10) attached to the rocking arm, a torsion spring (40) housed in the base and biases the rotation of the rocking arm to tension a belt, wherein the torsion spring is attached concentrically to the axial axis of the base and a friction member (60) interposed between the outer circumference of the tubular part (31) and the inner circumferential surface of the base (20). JP (05-83516) does not disclose that the torsion spring is attached eccentrically to the axial center of the base. Kotzab (4813,915) discloses a tensioner with a base (10) arm having a tubular part (8) and an a torsion spring (33) attached eccentrically with the axial center of the base (figs. 5-6) in order to provide a greater biasing forcing in one direction. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tensioner of JP (05-83516) such that the torsion spring is attached eccentrically to the axial center of the

base in view of Kotzab in order to provide a greater biasing forcing in one direction. It is apparent that a first damping force acting on the arm when the belt is in tension is relatively larger than a second damping force acting on the arm when the belt is slack due to the eccentricity of the spring to the axial center

In claim 2, it is apparent that the rocking arm is removably attached to the base via the fastening assembly (35).

In claim 3, note the friction member (21) interposed between outer circumferential surface of the tubular part of the arm and the inner tubular part base member and the friction member is provided across a range of at least 180^0 around the axial center of the base.

In claim 4, note the projections (61) provided on the friction member.

3. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP (05-83516) in view of Kotzab. JP (05-83516) does not disclose the magnitude of the first damping force. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify JP (05-83516) so that the magnitude of the first damping force is 1.5 to 3.5 times that of the second damping force, since it has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. *In re Boesch* , 617 F.2d 272, 205, USPQ 215 (CCPA 1980).

(10) Response to Argument

Applicant indicated that claims 1-4 and 6 define over the prior art because the prior art do not teach or suggest the torsion coil spring is attached eccentrically to the axial center of the base, in which one end of the coil spring is connected to the base and the

other end of the torsion coil spring is connected to the rocking arm, so that a first damping force acting on the rocking arm when the belt is tensioned is relatively larger than a second damping force acting on the rocking arm when the belt is slack. Applicant further stated that the amount of the damping force is amplified by the eccentricity the coil spring. In response, it should be noted that JP (05-83516) to Yasuhito et al. and Kotzab clearly disclosed the spring is eccentric to the axial center of the base. Note the axial center of the base of Kotzab is not necessarily the rotational center and thus the axial center is an imaginary line passing through the symmetrical center of the base. In reference to Kotzab, the axial center of the base is offset from the rotational center of the base and it can be seen that the spring is concentric to the rotational center but eccentric to the axial center. In addition, since the axial center of the base does not coincide with the rotational center the maximum spring force will be directed to the arm. It should also be noted the damping force is a function of the frequency and the frequency is a function of the load. Thus, when the load increases the twisting angle and the frequency increases and thus the damping force increases. Therefore, when the belt is tight the load on the arm increases resulting a larger damping force on the arm. It is known that when the belt is slack the load on the arm decreases thus the frequency decreases resulting a lower damping force.

In addition, it should be noted when the belt is under tension the angle of rotation of the arm increases the reaction to the torsion spring and thus the damping force also becomes larger (see an example in U S Patent 6,332,374 to Someda et al, (col. 5, lines 25-30)).

Regarding argument to claim 2, that the prior art do not teach the arm is movably attached to the base. It should be noted that both Yasuhito et al. and Kotzab clearly disclose the arm movably attached via a fastener to the base.

For the above reasons, it is believed that the rejection to claims 1-4 and 6 should be sustained.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Marcus Charles

Conferees:

THannon:

WJoyce: